

# Curriculum Vita

## David A. LeF bre

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### WORK EXPERIENCE:

**Jun. 1999 – current, Nanofab, LLC/Biohmics, Inc.** President and Chief Engineer. Research in charged particle separations using electric fields for large-scale protein separations.

**1993 – Feb. 1999 UOP mat/sen, El Dorado Hills CA,** Director. The group was a "Skunk Works" for the development of product concepts incorporating UOP materials. The group generated 35 patent applications. Developments included refractory GC Columns, Capillary Electrophoresis columns and detectors, point of use gas purification, breath analyzer for the prediction of disease, semiconductor dopant purification materials and life science applications development.

**1983 - 1993 Guided Wave, Inc., El Dorado Hills CA,** Founder, President and Chief Engineer. Invented, designed and manufactured Remote Sensing Statistical Spectroscopy Instruments for monitoring composition and physical properties for chemical plants and refineries (Annual revenue 1993: \$10 million).

**1981 – 1983 J & W Scientific Rancho Cordova CA,** Instrument Development Manager. Designed nanoliter LC detector that incorporated fiber optics. Improved manufacturing coating for stationary phases for GC capillaries.

**1975 – 1981 Maxlight Optical Waveguides (renamed Polymicro 1982), Phoenix AZ.** Founder, President and Chief Engineer. Designed and developed plastic clad, glass on glass and liquid core optical waveguides and manufactured GC capillaries.

**1969 – 1978 Sperry Flight Systems Division, Phoenix AZ,** Electronic Design Engineer. Designed autoplots for the 727, 737, 747, B1 Bomber, Shuttle data bus and the NASA Shuttle Trainer data adapter. Designed the first fly by light servo system for an aircraft using optical waveguides and investigated fiber optic gyros.

**1964 – 1968 Texas Instruments, Dallas TX,** Electronic Engineer. Designed closed loop servo systems for tracking antennas for the Apollo program. Designed an electro-optical alignment system for Polaris missiles.

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### EDUCATION:

BSEE, Purdue University, 1964, EE Graduate School Southern Methodist University (1967), EE Graduate School Arizona State University (1972 –1973)

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**Granted U.S. Patents:**

3,470,377	Two-axis Automatic Autocollimator
3,631,352	Mid-value Signal Selector
3,689,754	Function Generator
4,664,522	Optical Waveguide Spectrum Analyzer and Method
4,786,171	Spectral Analysis Apparatus and Method
5,184,193	Dual Fiber Optic Spectrophotometer ( <i>Basic Patent</i> )
5,430,295	Process for Control Blending
5,552,042	Rigid Silica Capillary Assembly
5,692,078	High Temperature Connector For Fused Silica Capillary Body
5,796,251	Process for Controlling Blending Using Nuclear Magnetic Resonance Spectroscopy
5,892,861	Coated Optical Waveguides as Extremely Long Path Sample Cells
5,937,895	Fail-safe delivery valve for pressurized tanks
5,980,599	In-tank Purifier with Bypass for Filing
6,007,609	Pressurized Container with Restrictor Tube having multiple Capillary Passages
6,045,115	Fail-safe Delivery Arrangement for Pressurized Containers
6,174,352	Round Profile multi-capillary assembly and method of making
6,333,088	Compound capillary assembly and use in separative transport